

Development of Curriculum in Nuclear Power Plant Safety, Reliability, and Risk Analysis

Executive Summary

The Purdue Nuclear Engineering faculty and staff propose to develop two undergraduate courses (one on each topic area) on: 1) nuclear power plant safety and 2) reliability and risk analysis. Specifically, the objectives are: (i) to develop a three-credit undergraduate-level course entitled “Nuclear Power Plant Safety,” (ii) to develop a three-credit undergraduate course entitled “Introduction to Probabilistic Risk Assessment (PRA),” (iii) to introduce “Nuclear Power Plant Safety” and “Introduction to PRA” as technical elective courses available to be offered in the spring 2011 semester, and (iv) to perform course assessment by using student feedback and comments. The scope of work is to be completed in one year. The courses on nuclear power plant safety and PRA will complement the courses that are currently taught in radiation detection, nuclear thermal hydraulics, power plant systems, and materials for the undergraduate. Both courses will be evaluated on their effectiveness and impact using course evaluation sheets administered through Purdue University. The courses will be available to juniors and seniors from nuclear engineering as well as to students from other engineering and science colleges with nuclear backgrounds. The existing Purdue University blackboard vista platform will be used for instruction.

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